

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE FEBRUARY 2005				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7				R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations Aircraft Defensive Systems / Project 3284					

COST (Dollars in Millions)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	Cost to Complete	Total Cost
PE1160425BB		55.622	38.824	14.372	8.170	4.174	8.629	6.719	Cont.	Cont.
PE1160404BB	54.330									
3284, Special Operations Aircraft Defensive Systems	54.330	55.622	38.824	14.372	8.170	4.174	8.629	6.719	Cont.	Cont.

As directed by Congress, a new program element was established beginning in FY 2005 for Special Operations Aircraft Defensive Systems. FY 2005-2011 resources were moved from PE 1160404BB.

A. Mission Description and Budget Item Justification: This program element provides for the definition, development, prototyping and testing of aircraft defensive avionics systems. It includes the identification and development of hardware and software enhancements for each Special Operations Forces (SOF) aircraft to reduce detection, vulnerability, and threat engagement from threat radars and Infrared (IR) missiles, thereby increasing the overall survivability of SOF assets. This program element funds dispenser upgrade and improvement programs, threat and missile warning receiver enhancements, radio frequency jammer improvements, and enhanced IR jamming systems. It also provides systems for SOF-unique portions of the Electronic Warfare Avionics Integrated Systems Facility.

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<p>Funding:</p> <p>FY04</p> <ul style="list-style-type: none"> - Net decrease (\$.708) from Directional Infrared Countermeasures (DIRCM) to help source unfunded requirements. <p>FY05</p> <ul style="list-style-type: none"> - Transfer from PE1160404BB result of congressionally directed program element change. - Program reductions, (-\$1.127M) from Sections 8122, 8131, and 8095. 																																																					

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160425BB Special Operations Aircraft Defensive Systems / Project 3284	
<p>FY06</p> <ul style="list-style-type: none"> - Transfer from PE1160404BB result of congressionally directed program element change. - Increase to DIRCM program to restore \$8.9M for USSOCOM share of the Next Generation Missile Warning System. - Decrease of (\$.866M) to fund higher command priorities. <p>FY07</p> <ul style="list-style-type: none"> - Transfer from PE1160404BB result of congressionally directed program element change. - Increase to Low Band Jammer (LBJ) (+1.900M), Towed Decoy (+\$.014M), (+\$1.271) for higher command priorities. <p>Schedule:</p> <ul style="list-style-type: none"> - LBJ and TD: In FY03, the program rebaselined to first modify the MC130E instead of the AC-130H aircraft since the MC-130E already has the AN/ALQ-196 LBJ. The upgraded AN/ALQ-196 will eventually go on all the MC-130H and AC-130U aircraft. This rebaseline resulted in moving Milestone C (MS C) production decision and Initial Operational Capability (IOC) to one year later. Additionally the effect of further funding reductions to these programs requires another rebaseline, moving the MS C production decision to FY07 for LBJ and TD, and IOC to FY09 for both systems. <p>Technical: None.</p>		

Exhibit R-2a, RDT&E Project Justification		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	SOF Aircraft Defensive System/Project 3284	

Cost (\$ in million)	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
SOF Aircraft Defense System	54.330	55.622	38.824	14.372	8.170	4.174	8.629	6.719
RDT&E Articles Quantity								

Note: As directed by Congress, a new program element was established beginning in FY 2005 for Special Operations Aircraft Defensive Systems. FY 2005-2011 resources were moved from PE 1160404BB.

A. Mission Description and Budget Item Justification: This project provides definition, development, prototyping and testing of aircraft defensive avionics systems. Project identifies hardware and software enhancements for each Special Operations Forces (SOF) aircraft that will reduce detection, vulnerability, and threat engagement from threat radars and Infrared (IR) missiles, thereby increasing the overall survivability of SOF assets. This project identifies and develops enhancements to each platform to meet the projected threat. Recommendations for equipment modification or replacement will be developed by each system program manager based upon the results of ongoing engineering assessments and user operational requirements. This project funds dispenser upgrade and improvement programs, threat and missile warning receiver enhancements, radio frequency jammer improvements, and enhanced IR jamming systems. Project also provides systems for SOF-unique portions of the Warner Robins-Air Logistics Center, Electronic Warfare Avionics Integrated Systems Facility (EWAISF). Sub-projects include:

- Directional Infrared Countermeasures (DIRCM). The baseline program is a joint international cooperative United Kingdom/United States project to develop and procure an IR jammer for MC-130E/H and AC-130H/U aircraft capable of countering missile threats in the band one, two and four IR frequency spectrum.
- Next Generation Missile Warning System (NexGen MWS). Increment 3 in the spiral development of the AAQ-24 DIRCM System. Cooperative development program with Air Force to significantly extend DIRCM threat engagement range. Funds support two contracts through completion of System Design and Development (SDD) phase.
- EWAISF. The EWAISF directly supports software development and testing for EW systems. The EWAISF effort is a type of systems integration laboratory designed to support the incorporation of SOF aircraft defensive systems modifications into specific SOF platforms.
- High Power Fiber Optic Towed Decoys (HPFOTD) for MC-130 E/H Talon aircraft. Program funds the testing of the HPFOTD ALE-

Exhibit R-2a, RDT&E Project Justification		Date: FEBRUARY 2005
Appropriation/Budget Activity RDT&E BA # 7	SOF Aircraft Defensive System/Project 3284	

55 that uses the ALQ-172 as a techniques generator. The HPFOTD will be installed on all MC-130 E/H aircraft to provide protection against monopulse and other radar guided, surface to air, and air to air missile systems. AC-130U/H for the HPFOTD requirement was rescinded in FY04.

- Low Band Jammer (LBJ). Program funds the integration of the ALQ-196 LBJ modification. The LBJ will improve the capability of the ALQ-172 radio frequency jammer by adding low band jamming coverage for MC-130H Combat Talon II aircraft and AC-130U Gunships.

B. Accomplishments/Planned Program

Cost (\$ in million)	FY04	FY05	FY06	FY07
DIRCM	4.497	5.418	5.211	1.798
DIRCM NexGen MWS	15.052	17.927	9.079	
RDT&E Articles Quantity				
<p>FY04 Continued to support a cooperative United Kingdom (UK)/U.S. development/production program for 57 SOF C-130 aircraft and contractor engineering support fund nonrecurring engineering costs. Awarded a development contract for a NexGen MWS as Preplanned Product Improvement (P3I) for DIRCM. Exploited Tier II missiles for jam code development.</p> <p>FY05 Continues to support a cooperative UK/US development/production program for 57 SOF C-130 aircraft and contractor engineering support and nonrecurring engineering costs. Continue development of a NexGen MWS as P3I for DIRCM. Exploit Tier II missiles for jam code development.</p> <p>FY06 Continues to support a cooperative UK/US development/production program for 57 SOF C-130 aircraft and contractor engineering support and nonrecurring engineering costs. Completes development of a NexGen MWS as P3I for DIRCM.</p> <p>FY07 Continues to support a cooperative UK/US development/production program for 57 SOF C-130 aircraft and contractor engineering support and nonrecurring engineering costs.</p>				
Cost (\$ in million)	FY04	FY05	FY06	FY07
EWASIF	1.586	1.804	1.927	1.966
RDT&E Articles Quantity				
<p>FY04 Continued to support laboratory efforts to maintain SOF aircraft defensive systems.</p> <p>FY05 Continues to support laboratory efforts to maintain SOF aircraft defensive systems.</p>				

Exhibit R-2a, RDT&E Project Justification		Date: FEBRUARY 2005
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FY06 Continues to support laboratory efforts to maintain SOF aircraft defensive systems.
FY07 Continues to support laboratory efforts to maintain SOF aircraft defensive systems.

Cost (\$ in million)	FY04	FY05	FY06	FY07
HPFOTD	30.644	15.378	11.471	6.632
RDT&E Articles Quantity				

FY04 Continued nonrecurring engineering and development, and completed test of aircraft integration efforts.
FY05 Continues nonrecurring engineering and development, and begin Developmental Test/Operational Test and Evaluation (DT/OT&E) efforts for MC-130E aircraft.
FY06 Continues nonrecurring engineering and development, and begin DT/OT&E efforts for MC-130H aircraft. Complete MC-130E DT/OT&E.
FY07 Completes MC-130H DT/OT&E.

Cost (\$ in million)	FY04	FY05	FY06	FY07
LBJ	2.551	15.095	11.136	3.976
RDT&E Articles Quantity				

FY04 Continued nonrecurring engineering and development for aircraft integration efforts.
FY05 Continues nonrecurring engineering and initiate testing for aircraft integration for MC-130H aircraft.
FY06 Continues nonrecurring engineering and initiate testing for aircraft integration for MC-130H aircraft.
FY07 Completes MC-130H DT/OT&E.

C. Other Program Funding Summary:

	<u>FY04</u>	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>To Complete</u>	<u>Total Cost</u>
C-130 Mods (Procurement)										
DIRCM	38.795	14.390	6.899							60.084
LBJ			5.908	4.581	9.755	10.271	13.160	13.687	38.500	95.928
HPFOTD		11.447	0.016	14.859	14.056	8.628	5.552	5.351	53.200	113.043

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D. Acquisition Strategy:

- DIRCM. The memorandum of agreement between the UK/U.S. established the cooperative international baseline DIRCM program. The UK Ministry of Defense is the lead for the program. UK law applies to all baseline acquisition actions. USSOCOM program manager is the U.S. Deputy to the UK DIRCM program manager.
- NexGenMWS. Competitively award a contract to two contractors for the SDD phase of the program. A separate contract will be competitively awarded for the production phase.
- EWAISF. Award sole source contracts to the manufacturer of the prime mission equipment required for hardware and software integration into the EWAISF. Capability improvements are on-going system changes.
- LBJ. Program will capitalize on previous SOF aircraft modifications using the ALQ-196 system currently installed on MC-130E aircraft. The ALQ-196 system was selected as the best value decision. Program management will be provided through an Air Force System Program Office and a pre-competed contract will be used for integration, production, and installation.
- HPFOTD. Performed a market survey of the existing Towed Decoy currently available in the U.S. market place. Conducted an assessment to determine which non-developmental item meets operational requirements. The ALE-55 system was selected as the best value decision.

Exhibit R-3 COST ANALYSIS					DATE: FEBRUARY 2005						
APPROPRIATION / BUDGET ACTIVITY				Special Operations Tactical Systems Development/PE1160425BB							
RDT&E DEFENSE-WIDE / 7				Special Operations Forces Aircraft Defensive System/3284							
Actual or Budget Value (\$ in millions)											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY05	Award Date FY05	Budget Cost FY06	Award Date FY06	Budget Cost FY07	Award Date FY07	To Complete	Total Program
Primary Hardware Dev											
Directional Infrared Countermeasures (DIRCM)	SS/FFP	Northrop (Chicago)	101.684								101.684
Tech Integration DIRCM	SS/CPFF	Northrop (Chicago)	7.299	3.918	Various	3.711	Various	0.298	Various	Cont	Cont.
NexGen MWS	CPIF	Northrop (Chicago)/Lockheed Martin (Orlando)	17.455	17.927	Jan-05	9.079	Dec-05				44.461
Electronics Warfare Avionics											
Integrated Systems Facility	SS/CPFF	Various	16.974	1.804	Various	1.927	Various	1.966	Various	Cont.	Cont.
HPFOTD	CPAF	Boeing, Ft. Walton Beach, FL	94.553	15.378	Jan-05	11.471	Jan-06	6.632	Jan-07	1.433	129.467
Low Band Jammer	CPAF	Boeing, Ft. Walton Beach, FL	35.900	15.095	Jan-05	11.136	Jan-06	3.976	Jan-07	1.536	67.643
Subtotal Product Dev			273.865	54.122		37.324		12.872		Cont.	Cont.
Remarks:											
Development Spt											
Subtotal Spt											
Remarks:											
Developmental Test & Eval											
Subtotal T&E											
Remarks:											
Contractor Engineering Spt											
DIRCM	FP	Sverdrup	3.098	1.500	Mar-05	1.500	Dec-05	1.500	Dec-06	Cont.	Cont.
Subtotal Contract Engineering Spt			3.098	1.500		1.500		1.500		Cont.	Cont.
Remarks:											
Total Cost			276.963	55.622		38.824		14.372		Cont	Cont

Exhibit R-4, Schedule Profile														Date: FEBRUARY 2005																		
Appropriation/Budget Activity								Program Element Number and Name																Project Number and Name								
RDT&E/7								PE1160425BB/Special Operations Aircraft Defensive Systems																Project 3284/SOF Aircraft Defensive Systems								
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
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Missile Warning System Development (NexGen)																																
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